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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/597,518

07/27/2006

Kentaro Nakahara

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2255

27667 7590 04/02/2009
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EXAMINER

HAN, KWANG S

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/597,518	Applicant(s) NAKAHARA ET AL.	
	Examiner Kwang Han	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/31/06</u> . | 6) <input type="checkbox"/> Other: ____. |

POWER STORAGE DEVICE

Examiner: K. Han SN: 10/597,518 Art Unit: 1795 April 2, 2009

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the placement of the anode and cathode, does not reasonably provide enablement for preventing a short circuit. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to form the power storage device of the invention commensurate in scope with these claims. The description within the specification does not provide how the direct contact between the anode and cathode would not exhibit a short circuit to the

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device as would be expected to one of ordinary skill. For the purposes of examination it will be assumed the applicant is using a solid electrolyte forgoing the use of a separator.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 3-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakahara et al. (JP 2002-304996, machine translation).

Regarding claim 1, Nakahara is directed towards an electric storage device (power storage device) comprising a nitroxyl polymer which has a nitroxyl cation partial structure and a nitroxyl radical partial structure [Abstract, 0008-0009] in a cathode. Nakahara further discloses using lithium as the anode active material [0045] and the use of a solid electrolyte without the use of a separator (the cathode in direct contact with the anode) [0050].

Regarding claims 3 and 4, Nakahara discloses the collector to be comprised of various materials including a carbon raw material and aluminum [0046].

Regarding claim 5, Nakahara discloses the cyclic nitroxyl structure [0010].

Regarding claim 6, Nakahara discloses the nitroxyl polymer compound having a side chain containing a residue which removes at least one hydrogen atom bonded to an element forming at least one cyclic nitroxyl structure [0017-0022].

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claim 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahara et al. as applied to claim 1 above and further in view of McManis et al. (US 4632889).

Regarding claim 2, the teachings of Nakahara as discussed above are herein incorporated.

McManis teaches a lithium alloy composite for battery applications including lithium-aluminum and lithium-silicon alloys for the benefit of forming an anode which discharges at high rates in a variety of electrolytes (1:44-57). It would have been obvious to one of ordinary skill in the art at the time of the invention to use an anode

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including active materials comprised of lithium-silicon alloy because McManis teaches it forms an anode for a battery with high discharge rates in a variety of electrolytes.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahara et al. as applied to claim 1 above and further in view of Inoue et al. (US 6090506).

Regarding claim 3, Nakahara discloses the collector to be comprised of various materials including a carbon raw material and aluminum [0046].

Inoue teaches a current collector for a battery composed of materials which undergo no chemical change within the battery including aluminum with carbon treated on the surface (13:32-39). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a current collector for a battery comprised of aluminum with carbon because Inoue teaches these materials undergo no chemical change within the battery and is electrically conductive.

11. Claim 3 and 4 are also rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahara et al. as applied to claim 1 above and further in view of Farahmandi et al. (US 5777428).

Regarding claims 3 and 4, Nakahara discloses the collector to be comprised of various materials including a carbon raw material and aluminum [0046].

Farahmandi teaches a capacitor having an aluminum impregnated with carbon electrode (including carbon paper; 5:51-52) to form a composite electrode attached to the current collector plate to form a high performance double layer capacitor (5:50-58-

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6:25-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to use an aluminum electrode impregnated with carbon in Nakahara's electric storage device because Farahmandi teaches it provides for a bipolar type double layer capacitor that can deliver large amounts of useful energy at a very high power output and power density rating (5:21-24).

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 1, 3, 5 and 6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4 and 5 of copending Application No. 10/597517 in view of Nakahara et al.

Claims 1, 4, and 5 of Application 10/597517 recite all the limitations of the instant claims 1, 3, 5, and 6 except for the cathode to be in direct contact with anode. It is taught by Nakahara that if a solid electrolyte is present then a separator is not required to be used and the anode would be in direct contact with the cathode [0050]. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the anode and cathode of power storage device because Nakahara teaches that the use of a solid electrolyte can eliminate the need for a separator thereby forming a device where the cathode is in contact with the anode.

This is a provisional obviousness-type double patenting rejection.

Contact/Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwang Han whose telephone number is (571) 270-5264. The examiner can normally be reached on Monday through Friday 8:00am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571) 272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. H./

Examiner, Art Unit 1795

/PATRICK RYAN/

Supervisory Patent Examiner, Art Unit 1795